

### **Abstract**

A magnetic heater is provided having a conductive member and a first magnet assembly comprising a frame and at least one magnet disposed a distance adjacent the conductive member, wherein the first magnet assembly and the first frame are adapted to rotate relative to each other about an axis so as to induce eddy currents in the conductive member when relative motion is produced between the conductive member and the first magnet assembly, the at least one magnet adapted to move relative to the frame in dependence on the change in the rate of rotation of the frame. The magnetic heater is provided with a passive relative-positioning actuator adapted to move one or more magnets in an axial direction and a radial direction relative to the frame. Such movement is exploited to control the magnetic field strength at the conductive member by controlling, among other things, the conductor/magnet spacing.